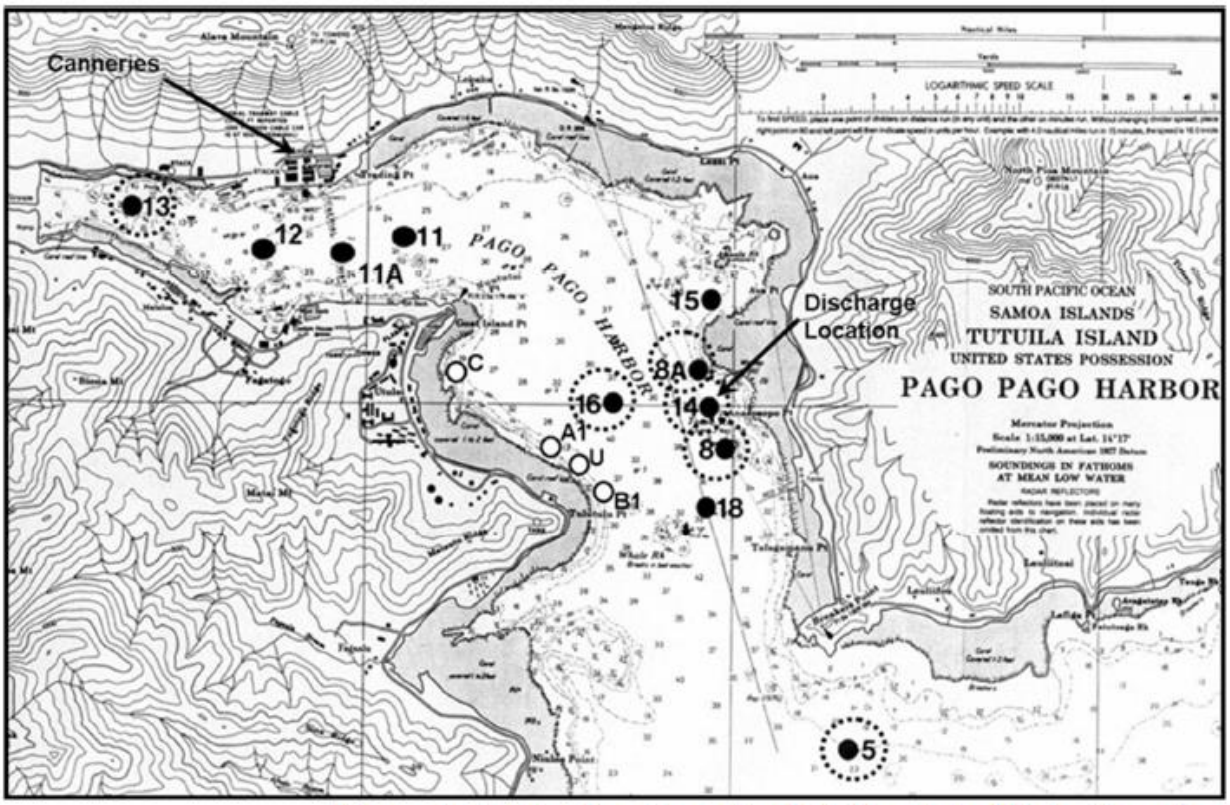
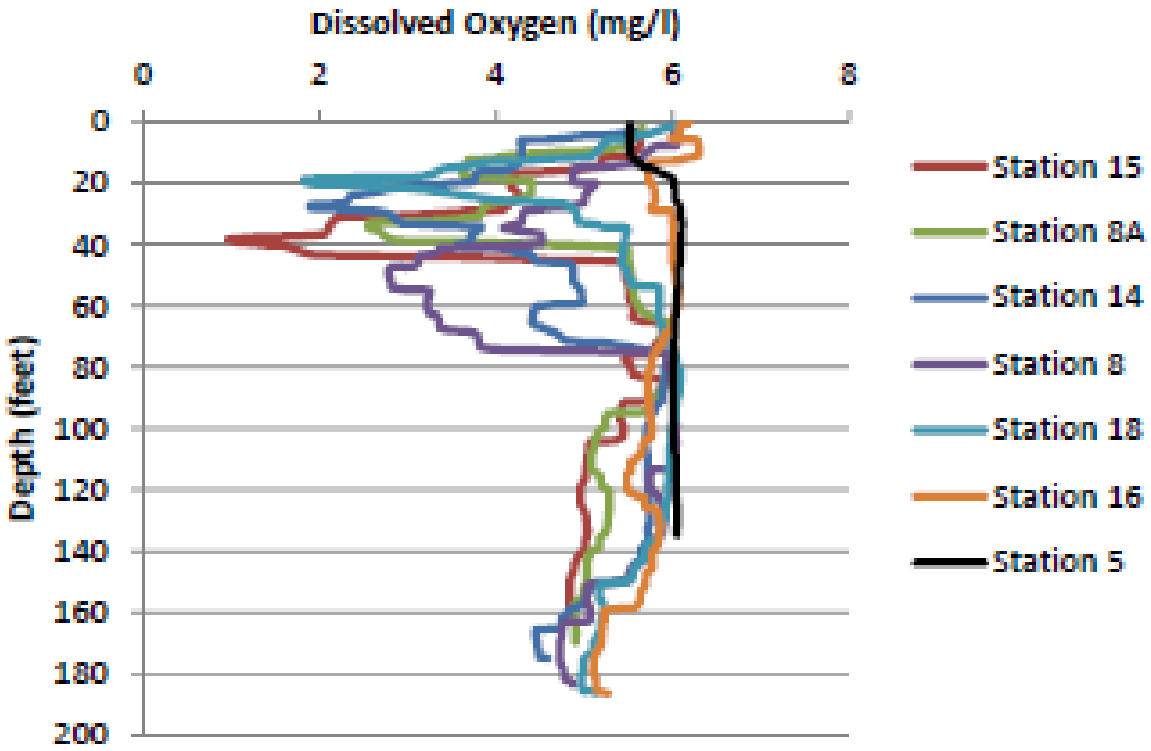


Figure 1. Station Locations for JCO Receiving Water Sampling

Vertical Profile of Dissolved Oxygen - August 2013



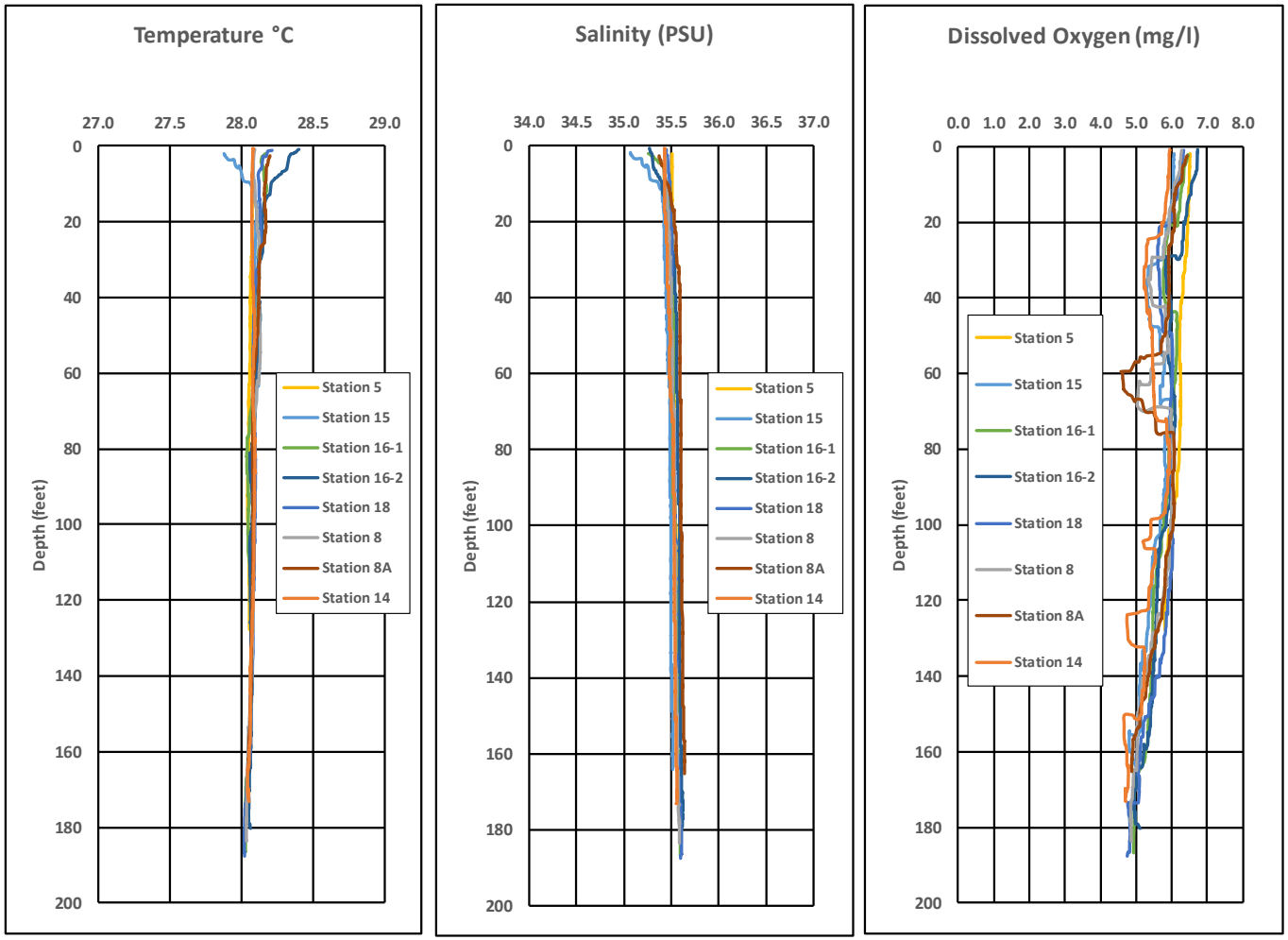


Figure 2. Salinity, Temperature, and Dissolved Oxygen for All Stations Pago Pago Harbor August 2014.

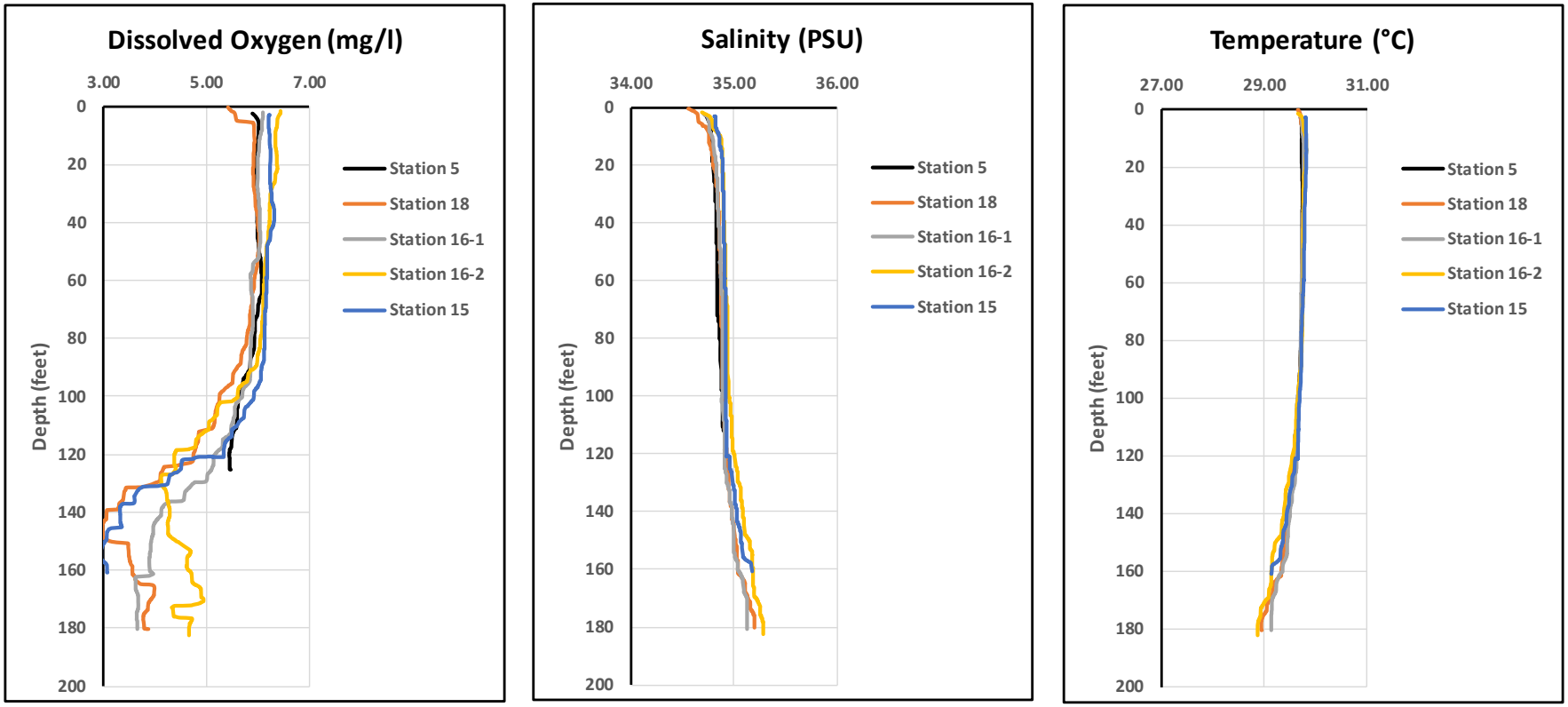


Figure 2. Salinity, Temperature, and Dissolved Oxygen for Reference and Farfield Stations – February 2015.

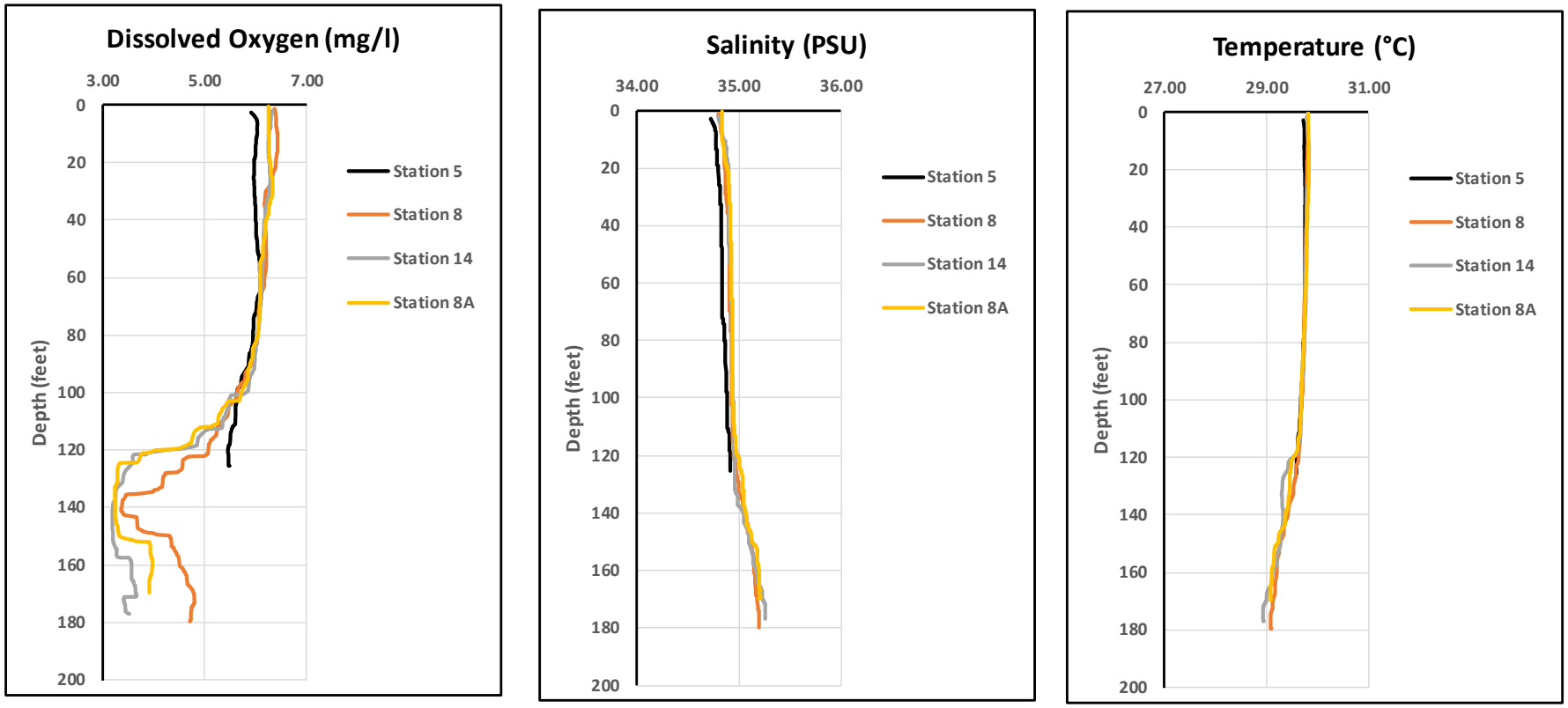


Figure 3. Salinity, Temperature, and Dissolved Oxygen for Reference and Nearfield Stations – February 2015.

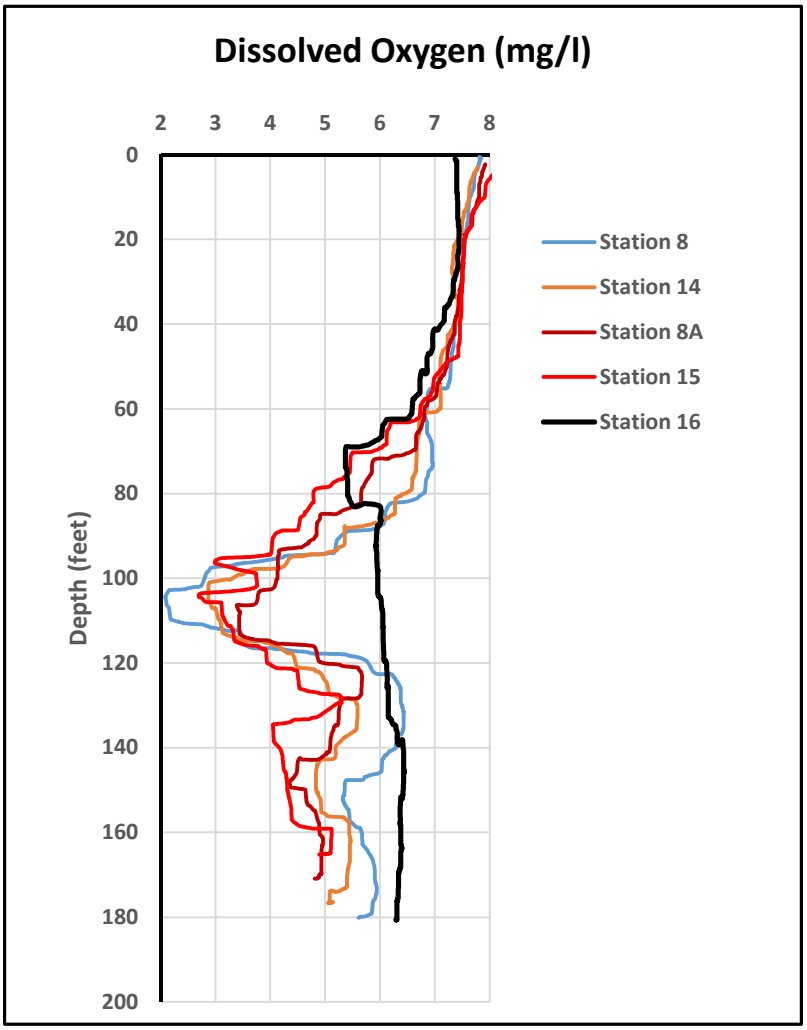


Figure 2. Dissolved Oxygen Profiles – February 2016.

Total nitrogen, *in single samples*, was at or above the ASWQS numerical criterion (which is expressed as the median value) for 12 out of 17 samples. The concentrations measured in the samples from the farfield station (Station FF) were similar to the samples from stations inside the harbor. The concentrations measured in the samples from the reference station (Station 5) were similar to, but somewhat lower than, the samples from stations inside the harbor. The ASWQS criterion is 200 µg/l (0.200 mg/l)[8], as a median value. The median nitrogen concentration for all stations was 0.231 mg/l. The elevated concentrations of nitrogen were present throughout the Harbor and in offshore waters (as indicated in the sampling for ASPA's Utulei WWTP and Tafuna WWTP done at the same time). There is little definitive evidence, although possible indication if data over time is considered, of the JCO discharge contributing to exceedances of the criterion. The ASWQS is based on the median (geometric mean), 90th percentile, and 98th percentile concentrations of all samples (stations and depths) over two years. An evaluation of compliance at the edge of the mixing zone (Stations 15, 16, and 18)

[8] TN not to exceed 0.200 mg/l (as median value), 0.350 mg/l more than 10% of the time, and 0.500 mg/l more than 2% of the time.

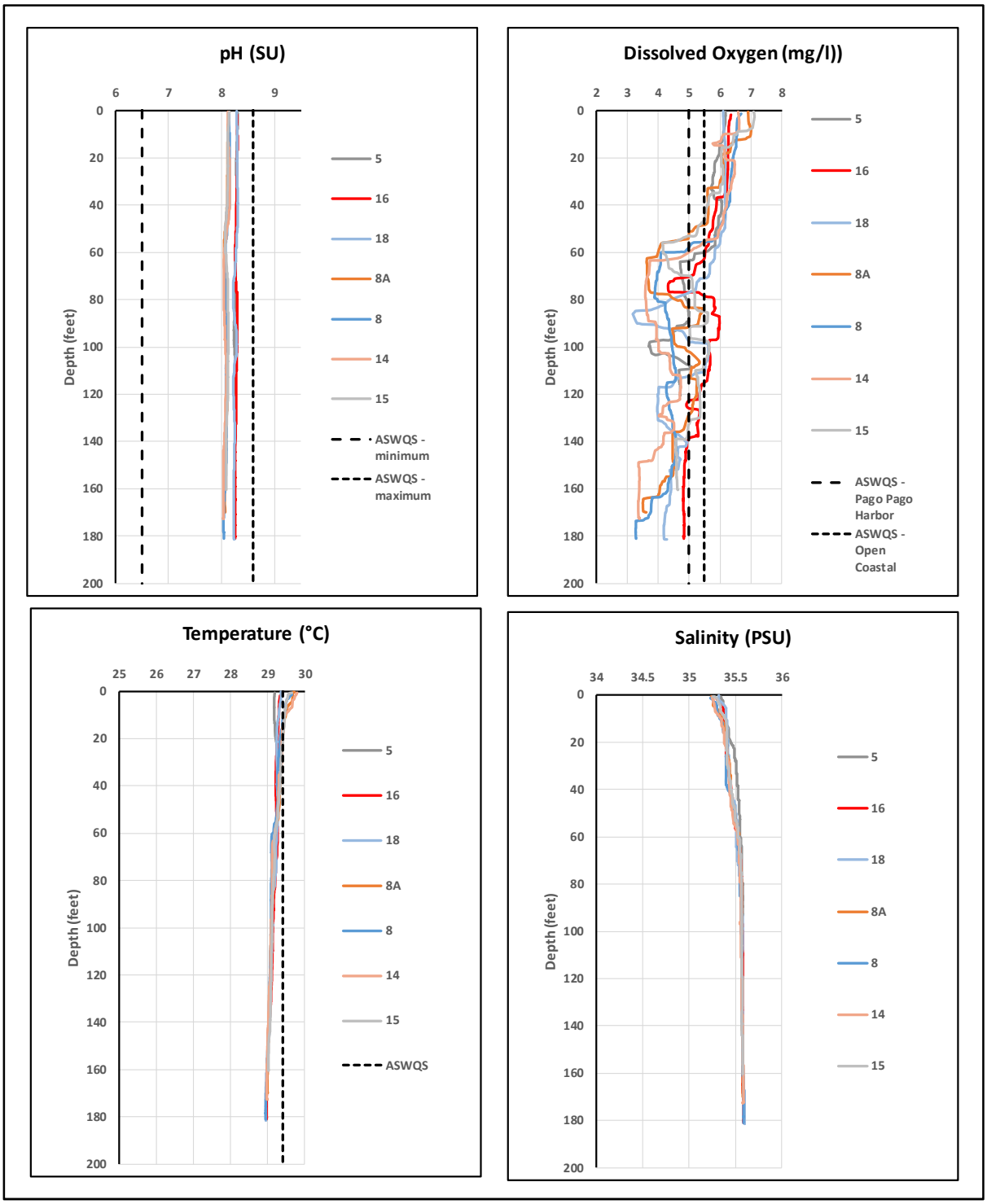


Figure 2. Vertical Profiles – October 2016.